

## REMARKS

Reconsideration is requested.

The Examiner's indication that claims 11-15 and 30 contain allowable subject matter is acknowledged. Claim 11 has been placed in independent form including all the limitations of the base claim and any intervening claim (and has been amended for increased clarity), and is therefore allowable. As claims 12-18 depend on claim 11, they too are allowable. New claims 39-43 are similar to claims 11-15 but recite a vehicle, and delete the thermal energy storage material, and are allowable for the same reasons that make claim 11 allowable. Claim 29 has been amended to add a second heat exchanger means provided in the first coolant loop and is therefore allowable. As claims 30-33 depend on claim 29, they too are allowable. New claim 44 is similar to claim 29 but recites a vehicle, does not use means language, and deletes the thermal energy storage material, and is allowable for the same reasons that make claim 29 allowable. As claims 45-48 depend on claim 44, they too are allowable.

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,007,315 to Brinkmann et al., in view of U.S. Patent No. 6,357,541 to Matsuda et al., and U.S. Patent No. 5,687,706 to Goswami et al.

Claim 1 also stands rejected under U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,007,315 to Brinkmann et al., in view of U.S. Patent No. 6,357,541 to Matsuda et al., and U.S. Patent No. 5,239,839 to James.

Claim 1, as amended, recites a thermal management system for a vehicle, comprising a heat exchanger having a thermal energy storage material provided therein; a first coolant loop thermally coupled to an electro-chemical storage device located within the first coolant loop and to the heat

exchanger; a second coolant loop thermally coupled to the heat exchanger, the first and second loops configured to carry distinct thermal energy transfer media; an interface configured to facilitate transfer of heat generated by an internal combustion engine to the heat exchanger via the second coolant loop in order to selectively deliver the heat to the electro-chemical storage device; and a second heat exchanger provided in the first coolant loop.

Brinkmann et al., Matsuda et al., Goswami et al., and James fail to disclose a second heat exchanger provided in the first coolant loop, in combination with the other limitations of claim 1.

Therefore, claim 1 is allowable.

As claims 2-10 and 19-21 depend on claim 1, they too are allowable.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,007,315 to Brinkmann et al., in view of U.S. Patent No. 6,357,541 to Matsuda et al., and U.S. Patent No. 5,687,706 to Goswami et al.

Claim 22 has been amended, in part, to recite additional details of the heat exchanger. Support can be found at least in paragraphs [0059] to [0063] of Applicants' originally filed specification.

Claim 22, as amended, recites a thermal management system for a hybrid electric vehicle, comprising a first fluid loop having a first coolant mixture flowing therein; a battery module located in the first fluid loop; a second fluid loop having a second coolant mixture flowing therein, the second coolant mixture being distinct from the first coolant mixture; a heat exchanger including a wall defining a chamber; a fluid flow passage inside the chamber, the fluid flow passage defining a portion of the first fluid loop; heat exchange tubing defining a portion of the second fluid loop, the heat exchange tubing being inside the chamber but not being in fluid communication with the fluid

flow passage inside the chamber; a flexible pouch in the chamber, and phase change material in the pouch, the pouch being capable of expanding and contracting as the phase change material therein undergoes changes in density because of phase transitions; and phase change material in the flexible pouch; and a thermal interface configured to transfer heat produced by an internal combustion engine of the vehicle to the heat exchanger.

It would not be obvious to combine Matsuda et al. with Brinkmann et al. because there is no teaching or suggestion of which elements of Masuda et al. should be selected and somehow combined with Brinkmann et al. It would not be obvious to combine Goswami et al. with some combination of Matsuda et al. and Brinkmann et al. because there is no teaching or suggestion of which elements of Goswami et al. should be selected and somehow combined with a combination of Matsuda et al. and Brinkmann et al. There are no teachings in the references themselves that there would be any advantage resulting from selecting portions of the device of Goswami et al. and integrating it somehow into a combination of Matsuda et al. with Brinkmann et al.

Even if the references could be combined, the combination of references would fail to disclose a wall defining a chamber; a fluid flow passage inside the chamber, the fluid flow passage defining a portion of the first fluid loop; heat exchange tubing defining a portion of the second fluid loop, the heat exchange tubing being inside the chamber but not being in fluid communication with the fluid flow passage inside the chamber; a flexible pouch in the chamber, and phase change material in the pouch, the pouch being capable of expanding and contracting as the phase change material therein undergoes changes in density because of phase transitions; and phase change material in the flexible pouch, in combination with the other elements of claim 22.

In addition, the Federal Circuit discussed proper motivation in the case of *In re Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). The Court stated that the factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. The Examiner's conclusory statements in the *Lee* case did not adequately address the issue of motivation to combine. The Court additionally stated that the factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. The Court also stated that deficiencies of cited references cannot be remedied by general conclusions about what is basic knowledge or common sense. The Court further stated that the determination of patentability must be based on evidence.

In the instant case, the record is entirely devoid of any evidence to support motivation to combine the teachings apart from conclusory statements which are insufficient for proper motivation as set forth by the Federal Circuit. There is absolutely no evidence that the device of Brinkmann et al. is deficient with respect to heat exchanger design such that one would be motivated to look for other solutions or that any improvement would result from the combination of the referenced teachings. The only rational is subjective opinion improperly based upon Applicants' own disclosure.

Therefore, claim 22 is allowable.

As claims 23-28 depend on claim 22, they too are allowable.

The dependent claims are allowable because they depend on an allowable independent claim. The dependent claims also present additional patentable subject matter. For example, dependent claim 23 recites a second heat exchanger thermally coupled to the first fluid loop, and therefore presents additional patentable subject matter, for the same reasons that claims 11-15 and 30 were stated to contain allowable subject matter on page 8 of the Office Action.

In view of the foregoing, allowance of claims 1-43 is requested.

This application is believed to be in immediate condition for allowance, and action to that end is requested. Should the next Action be anything other than a Notice of Allowance, a telephonic interview is requested.

Respectfully submitted,

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